



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/779,248

02/08/2001

Ruchi D. Kapoor

M-11063 US

9962

33031

7590

11/01/2005

CAMPBELL STEPHENSON ASCOLESE, LLP
4807 SPICEWOOD SPRINGS RD.
BLDG. 4, SUITE 201
AUSTIN, TX 78759

EXAMINER

MOORE, IAN N

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,248

Applicant(s)

KAPOOR ET AL.

Examiner

Ian N. Moore

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10,12-17 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10,12-17 and 19-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,2,4,9,10,12,16,17,19,23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde (US006570875B1) in view of Blandy (US005884080A).

Regarding claims 1, 9 and 16, Hegde discloses a network node (see FIG. 2, Multiprotocol Switch 40) for collecting network traffic data having one or more processing engines (see FIG. 2, CPU 80) and a memory (see FIG. 2, Shared Memory 90) comprising a set of instructions to:

receive a group of information (see FIG. 2, Input/output ports 50 receive IP packet; see col. 4, lines 34-53, see col. 5, lines 30-50; see FIG. 7, S30 and S32; see col. 8, lines 250 to col. 9, lines 390);

determine whether to process the group of information for network traffic data collection (see FIG. 8, S42, S44; see col. 2, lines 65 to col. 3, lines 9; see col. 9, lines 40-55; note that IP header is extracted and determined if the flow (i.e. source and destination) is in the flow table for updating/creating the new forwarding information in the flow table 70 (also see FIG. 5)),

wherein said determining is performed according to an algorithm (see FIG. 8-9, method/algorithm) that is selected from one of

selecting the group of information based on an examination of traffic attribute data (see FIG. 8, checking/getting/evaluation addresses in the packet header) in the group of information (see col. 9, lines 44-55; see col. 10, lines 35-42);

process the group of information for network traffic data collection if the determination is to process the group of information (see FIG. 9, S72, S94; see col. 3, lines 3-5, see col. 10, lines 36-44, see col. 11, lines 65 to col. 12, lines 5; note that the new forwarding information is created in the flow table when the flow from extracted IP header is not in the flow table; also see FIG. 10 for recording/collecting the entries in the flow table); and

forward the group of information to the destination (see FIG. 8, S46, S50; see col. 3, line 4-10, see col. 10, lines 24-32; note that once the flow is identified and the address is resolved, the IP packet is forwarded according to the designated flow);

Hegde does not explicitly disclose a burst sampling. However, Blandy teaches determining is performed according to a sampling algorithm (see FIG. 2 and 3, sampling method) that is selected from one of a burst sampling algorithm (see col. 2, lines 64-66; see col. 3, lines 12-19; col. 4, lines 26-50; sampling burst method); and

selecting the group of information based on an examination of traffic attribute data in the group of information (see FIG. 2, 33-39; see FIG. 3, 41-58; see col. 4, lines 30 to col. 6, lines 26; setting/allocating data according to time/count of traffic data). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a burst sampling algorithm, as taught by Blandy in the system of Hegde, so that it would provide a performance system monitor system performance with minimal changes to the operating system and no changes to application code; also it would provides mechanism for monitoring system

performance by sampling in a burst mode, rather than once per interrupt; see Blandy col. 2, line 55 to col. 3, lines 10.

Regarding claims 2, 10 and 17, Hegde'875 discloses wherein the group of information is an IP packet (see FIG. 2, IP packet; see col. 4, lines 34-53, see FIG. 7, S32; IP packet see col. 8, lines 250 to col. 9, lines 390; see col. 5, lines 30-50).

Regarding claims 4, 12 and 19, the combined system of Hegde'875 and Blandy discloses wherein forwarding the group of information to the destination as described in claim 1.

Hegde'875 further discloses identifying the destination (see FIG. 8, S44, an entry of a flow) using a forwarding table (see FIG. 2 and FIG. 5, Flow Table 70; see col. 2, lines 65 to col. 3, lines 9; see col. 9, lines 40-55; note that IP header is extracted and determined if the flow entry is in the flow table);

if the destination is in the forwarding table (see FIG. 8, S46; the entries in the flow table is Yes), automatically forwarding the group of information to the destination (see FIG. 8, S46; note that the packet is forwarded according to a flow in the flow table at wire speed; see col. 3, lines 6-7; col. 9, lines 50-55) and

otherwise sending the group of information to one or more processing engines to determine routing to the destination (see FIG. 8, S56; Forwarded to CPU for processing; col. 3, lines 2-6; note that when there is no entry of a flow in the flow table, the packet is forwarded to CPU to be processed. See FIG. 9, S88, S90, S94; the CPU determines and creates/updates the table with new forwarding information; see FIG. 9, S72, S94; see col. 3, lines 3-5, see col. 10, lines 36-44, see col. 11, lines 65 to col. 12, lines 5) and

forwarding the group of information according to the determined routing (see FIG. 8, S46, S50; see col. 3, line 4-10, see col. 10, lines 24-32; note that once the flow is identified and the address is resolved, the IP packet is forwarded according to the created/updated designated flow).

Regarding claim 5, Hegde'875 discloses wherein forwarding the group of information to the destination (see FIG. 8, S46; forwarding packet according to the flow table) is performed after processing the group of information (see FIG. 8, S40, S42 and S44; getting, checking and determining the IP packet for a flow; see col. 9, lines 44-49; note that forwarding IP packet according to the designated step is executed after the step of processing IP packet for a flow information is performed).

Regarding claim 23, Hegde'875 discloses an apparatus (see FIG. 2, Multiprotocol Switch 40) for collecting network traffic data comprising:

one or more switch fabrics (see FIG. 2, Switch Module 60) ;

one or more destination line cards (see FIG. 1 and 2, transmitting ports of the Input/output ports 50-1...50-N which interface with network nodes, also each port must be on the card) coupled to the one or more switch fabrics (see FIG. 2, Input/output ports 50 is connected to Switch Module 60; see col. 4, lines 34-53);

a source line card (see FIG. 1 and 2, receiving ports of the Input/output ports 50-1...50-N which interface with network nodes, also each port must be on the card) coupled to the one of the one or more switch fabrics (see FIG. 2, Input/output ports 50 is connected to Switch Module 60; see col. 4, lines 34-53) wherein

the source line card receive a data packet (see FIG. 2, receiving ports of Input/output ports 50 receive IP packet; see col. 4, lines 34-53, see FIG. 7, S30 and S32; see col. 8, lines 250 to col. 9, lines 390);

a router processor (see FIG. 2, CPU 80), couple to switch fabric (see FIG. 2, Switch Module 60), and configured to

determine whether to process the data packet for network traffic data collection according to an algorithm (see FIG. 8-9, method/algorithm; see FIG. 8, S42, S44; see col. 2, lines 65 to col. 3, lines 9; see col. 9, lines 40-55; note that IP header is extracted and determined if the flow (i.e. source and destination) is in the flow table for updating/creating the new forwarding information in the flow table 70 (also see FIG. 5));

process the data packet for network traffic data collection if the determination is to process the data packet (see FIG. 9, S72, S94; see col. 3, lines 3-5, see col. 10, lines 36-44, see col. 11, lines 65 to col. 12, lines 5; note that the new forwarding information is created in the flow table when the flow from extracted IP header is not in the flow table; also see FIG. 10 for recording/collecting the entries in the flow table); and

forward the data packet to one of the one or more destination line cards (see FIG. 8, S46, S50; see col. 3, line 4-10, see col. 10, lines 24-32; note that once the flow is identified and the address is resolved, the IP packet is forwarded to the destination, thereby forwarding to output port 50).

Hegde does not explicitly disclose a sampling. However, Blandy teaches determining is performed according to a sampling algorithm (see FIG. 2 and 3; col. 2, lines 64-66; see col. 3, lines 12-19; col. 4, lines 26-50; sampling burst method).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a burst sampling algorithm, as taught by Blandy in the system of Hegde, so that it would provide a performance system monitor system performance with minimal changes to the operating system and no changes to application code; also it would provides mechanism for monitoring system performance by sampling in a burst mode, rather than once per interrupt; see Blandy col. 2, line 55 to col. 3, lines 10.

Regarding Claim 24, claim which that substantially discloses all the limitations of the respective claim 2. Therefore, it is subjected to the same rejection.

Regarding claim 25, the combined system of Hegde and Blandy discloses all the limitations. Hegde discloses an algorithm (see FIG. 8-9, method/algorithm) that is selected from one of

selecting the data packet based on an examination of traffic attribute data (see FIG. 8, checking/getting/evaluation addresses in the packet header) in the data packet (see col. 9, lines 44-55; see col. 10, lines 35-42).

Blandy teaches determining is performed according to a sampling algorithm (see FIG. 2 and 3, sampling method) that is selected from one of a burst sampling algorithm (see col. 2, lines 64-66; see col. 3, lines 12-19; col. 4, lines 26-50; sampling burst method); and

selecting the data packet based on an examination of traffic attribute data in the data packet (see FIG. 2, 33-39; see FIG. 3, 41-58; see col. 4, lines 30 to col. 6, lines 26; setting/allocating data according to time/count of traffic data). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a

burst sampling algorithm, as taught by Blandy in the system of Hegde, for the same motivation as stated above in claim 1.

3. Claim 6, 13 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde'875 and Blandy, as applied to claims 1,9 and 16 above, and further in view of Dietz (U.S. 6,651,099).

Regarding claims 6, 13 and 20, Hegde'875 discloses determining if the group of information is part of one or more recorded traffic flows (see FIG. 8, S42, S44; see col. 2, lines 65 to col. 3, lines 9; see col. 9, lines 40-55; note that IP header is extracted and determined if the traffic flow is in the flow table);

creating a new entry in a table if the group of information is not part of the one or more recorded traffic flows (see FIG. 8, S56; Forwarded to CPU for processing; col. 3, lines 2-6; note that when there is no entry of a flow in the flow table, the packet is forwarded to CPU to be processed. See FIG. 9, S88, S90, S94; the CPU updates the table with a new traffic flow; see FIG. 9, S72, S94; see col. 3, lines 3-5, see col. 10, lines 36-44, see col. 11, lines 65 to col. 12, lines 5);

forwarding if the group of information is part of the one or more recorded traffic flows (see FIG. 8, S46, S50; see FIG. 12, S176; see col. 3, line 4-10, see col. 10, lines 24-32; note that once the flow is identified and the address is resolved, the IP packet is forwarded according to the created/updated designated flow).

Neither Hegde'875 nor Blandy explicitly disclose incrementing a field in an existing entry in the table; and time stamping the group of information.

However, the above-mentioned claimed limitations are taught by Dietz'099. In particular, Dietz'099 teaches incrementing a field (see col. 24, lines 55-56, see col. 14, lines 54-56; a packet count in the counters, and note that when counting, the data must be incremented) in an existing entry in the table (see FIG. 3, Flow entry database) if the group of information is part of the one or more recorded traffic flows (see FIG. 3, steps 316 and 322; see col. 14, lines 3-35, 48-57; see col. 24, lines 50-59; note that when the packet is found to have a match flow-entry in the database 324, the calculator enters the measured statistical data in the flow-entry); and

time stamping the group of information (see col. 20, line 40-65; note that the time stamps are generated, collected, and analyzed for each packet of the flow).

In view of this, having the combined system of Hegde'875 and Blandy, then given the teaching of Dietz'099, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde'875 and Blandy, for the purpose of providing a mechanism of collecting traffic flows in the flow-entry database by utilizing counters, and time stamping the packet, as taught by Dietz'099, since Dietz'099 states the advantages/benefits at col. 4, lines 40 to col. 5, lines 10 that it would recognize and classify all flows that pass either direction of the network and tune the performance of the network. The motivation being that by collection the traffic flow information, it enhance the performance of the network since the resources are being monitored and occurrences of specific sequences of packets are being reported.

4. Claim 7,8,14,15,21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde'875, Blandy and Dietz'099, as applied to claim 6,13, and 20 above, and further in view of Takase (U.S. 5,822,535).

Regarding claims 7, 14 and 21, the combined system of Hegde'875, Blandy and Dietz'099 discloses the processing of the group of information for network traffic data collection as described above in claims 1 and 6. Hegde further discloses a network traffic data collection application (see FIG. 2, Flow Table 70). Dietz'099 also discloses a network traffic data collection application (see FIG. 11, Lookup/update Engine LUE 1107).

Neither Hegde'875, Blandy nor Dietz'099 explicitly disclose creating a traffic information packet; and transmitting the traffic information packet.

However, the above-mentioned claimed limitations are taught by Takase'535. In particular, Takase'535 teaches creating a traffic information packet (see FIG. 17B, Response Packet; see col. 2, lines 55-61; see col. 20, lines 5-30; see FIG. 7, Steps S5-S7; note that upon receiving the call/request packet 401 from the management node 100, the managed node 301 creates a response packet after collecting and accumulating according to the inquiry); and

transmitting the traffic information packet to a network traffic data collection application (see FIG. 2, software application Management system 400 of the Management node 100; see FIG. 7, S8; the response packet is transmitted to the software application management system 400; see col. 7, lines 50 to col. 9, lines 6).

In view of this, having the combined system of Hegde'875, Blandy and Dietz'099, then given the teaching of Takase'535, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde'875, Blandy and

Art Unit: 2661

Takase'535, for the purpose of providing a mechanism of transmitting a collected response packet to the collection management application system upon inquiry, as taught by Takase'535, since Takase'535 states the advantages/benefits at col. 2, lines 45 to col. 3, lines 40 that it would reduce the amount of traffic flow in the network by preventing concentration of network load. The motivation being that by transmitting collected response packet only upon request to the management software application, it can reduce the network congestion since the collected packet is transmitted only upon request.

Regarding claims 8, 15 and 22, Takase'535 discloses wherein the traffic information packet comprises a header (see FIG. 17B, Protocol Header 171) and one or more flow records (see FIG. 17B, Attribute Value); see col. 20, lines 5-42.

In view of this, having the combined system of Hegde'875, Blandy and Dietz'099, then given the teaching of Takase'535, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde'875, Blandy and Takase'535, for same purpose as described above in claim 7.

5. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde in view of Blandy as described above in claim 23, and further in view of Hebb (U.S. 6,463,067).

Regarding Claim 26, the combined system of Hegde and Blandy discloses all aspect of the claim as described above in claim 4, and Hegde discloses a source line card and forwarding the data packet.

Neither Hegde nor Blandy explicitly discloses the source line card is performing processing of packet data (see FIG. 2, Forwarding Engine 22) is located on the source line card

(see FIG. 2, a line interface unit PHY 1/O and Framing 20 unit; note that Forwarding Engine 22 within interface card 20; col. 3, lines 55-60).

In view of this, having the combined system of Hegde and Blandy, then given the teaching of Hebb, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde and Blandy, for the purpose of providing processing packets within input line interface unit and sending the processed data to outgoing line interface unit, as taught by Hebb, since Hebb states the advantages/benefits at col. 2, lines 25-54 that it would enhance the efficiency and speed of the communication between the packet process and the forwarding engine, and allowing for high-speed packet forwarding and classification. The motivation being that by processing the packet at the incoming port and forwarding to the switch fabric and the outgoing port, it can increase the performance of the network and enhance the packet classification since the packet is proceed at incoming port before traversing the router.

Regarding claim 27, Hebb discloses wherein the one or more processing engines (see FIG. 2, Forwarding Engine 22) is located on the source line card (see FIG. 2, a line interface unit PHY 1/O and Framing 20 unit; note that Forwarding Engine 22 within interface card 20; col. 3, lines 55-60).

In view of this, having the combined system of Hegde and Blandy, then given the teaching of Hebb, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde and Blandy, for the purpose of providing processing packets within input line interface unit and sending the processed data to

Art Unit: 2661

outgoing line interface unit, as taught by Hebb, for the same motivation as stated above in claim 26.

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde'875, Blandy and Hebb'067, as applied to claim 23 above, and further in view of Dietz (U.S. 6,651,099).

Regarding claim 28, Hegde discloses determining if the data packet is part of one or more recorded traffic flows (see FIG. 8, S42, S44; see col. 2, lines 65 to col. 3, lines 9; see col. 9, lines 40-55; note that IP header is extracted and determined if the traffic flow is in the flow table);

creating a new entry in a table if the group of information is not part of the one or more recorded traffic flows (see FIG. 8, S56; Forwarded to CPU for processing; col. 3, lines 2-6; note that when there is no entry of a flow in the flow table, the packet is forwarded to CPU to be processed. See FIG. 9, S88, S90, S94; the CPU updates the table with a new traffic flow; see FIG. 9, S72, S94; see col. 3, lines 3-5, see col. 10, lines 36-44, see col. 11, lines 65 to col. 12, lines 5);

forwarding if the group of information is part of the one or more recorded traffic flows (see FIG. 8, S46, S50; see FIG. 12, S176; see col. 3, line 4-10, see col. 10, lines 24-32; note that once the flow is identified and the address is resolved, the IP packet is forwarded according to the created/updated designated flow).

Neither Hegde nor Blandy explicitly discloses the source line card is performing processing of packet data (see FIG. 2, Forwarding Engine 22) is located on the source line card

(see FIG. 2, a line interface unit PHY I/O and Framing 20 unit; note that Forwarding Engine 22 within interface card 20; col. 3, lines 55-60).

In view of this, having the combined system of Hegde and Blandy, then given the teaching of Hebb, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde and Blandy, for the purpose of providing processing packets within input line interface unit and sending the processed data to outgoing line interface unit, as taught by Hebb, since Hebb states the advantages/benefits at col. 2, lines 25-54 that it would enhance the efficiency and speed of the communication between the packet process and the forwarding engine, and allowing for high-speed packet forwarding and classification. The motivation being that by processing the packet at the incoming port and forwarding to the switch fabric and the outgoing port, it can increase the performance of the network and enhance the packet classification since the packet is proceed at incoming port before traversing the router.

Neither Hegde'875, Blandy nor Hebb explicitly disclose incrementing a field in an existing entry in the table; and time stamping the group of information.

However, the above-mentioned claimed limitations are taught by Dietz'099. In particular, Dietz'099 teaches incrementing a field (see col. 24, lines 55-56, see col. 14, lines 54-56; a packet count in the counters, and note that when counting, the data must be incremented) in an existing entry in the table (see FIG. 3, Flow entry database) if the group of information is part of the one or more recorded traffic flows (see FIG. 3, steps 316 and 322; see col. 14, lines 3-35, 48-57; see col. 24, lines 50-59; note that when the packet is found to have a match flow-entry in the database 324, the calculator enters the measured statistical data in the flow-entry); and

time stamping the group of information (see col. 20, line 40-65; note that the time stamps are generated, collected, and analyzed for each packet of the flow).

In view of this, having the combined system of Hegde'875, Blandy, Hebb then given the teaching of Dietz'099, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde'875, Blandy and Hebb, for the purpose of providing a mechanism of collecting traffic flows in the flow-entry database by utilizing counters, and time stamping the packet, as taught by Dietz'099, since Dietz'099 states the advantages/benefits at col. 4, lines 40 to col. 5, lines 10 that it would recognize and classify all flows that pass either direction of the network and tune the performance of the network. The motivation being that by collection the traffic flow information, it enhance the performance of the network since the resources are being monitored and occurrences of specific sequences of packets are being reported.

7. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hegde'875, Blandy, Hebb, and Dietz'099, as applied to claim 28 above, and further in view of Takase (U.S. 5,822,535).

Regarding claim 29, the combined system of Hegde'875, Blandy, Hebb'067 and Dietz'099 discloses the processing of the group of information for network traffic data collection as described above in claims 1 and 6. Hegde'875 further discloses a network traffic data collection application (see FIG. 2, Flow Table 70). Dietz'099 also discloses a network traffic data collection application (see FIG. 11, Lookup/update Engine LUE 1107).

Neither Hegde'875, Blandy, Hebb'067, nor Dietz'099 explicitly disclose creating a traffic information packet; and transmitting the traffic information packet.

However, the above-mentioned claimed limitations are taught by Takase'535. In particular, Takase'535 teaches creating a traffic information packet (see FIG. 17B, Response Packet; see col. 2, lines 55-61; see col. 20, lines 5-30; see FIG. 7, Steps S5-S7; note that upon receiving the call/request packet 401 from the management node 100, the managed node 301 creates a response packet after collecting and accumulating according to the inquiry); and

transmitting the traffic information packet to a network traffic data collection application (see FIG. 2, software application Management system 400 of the Management node 100; see FIG. 7, S8; the response packet is transmitted to the software application management system 400; see col. 7, lines 50 to col. 9, lines 6).

In view of this, having the combined system of Hegde'875, Blandy, Hebb'067 and Dietz'099, then given the teaching of Takase'535, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde'875, Blandy, Hebb'067 and Dietz'099, for the purpose of providing a mechanism of transmitting a collected response packet to the collection management application system upon inquiry, as taught by Takase'535, since Takase'535 states the advantages/benefits at col. 2, lines 45 to col. 3, lines 40 that it would reduce the amount of traffic flow in the network by preventing concentration of network load. The motivation being that by transmitting collected response packet only upon request to the management software application, it can reduce the network congestion since the collected packet is transmitted only upon request.

Regarding claim 30, Takase'535 discloses wherein the traffic information packet comprises a header (see FIG. 17B, Protocol Header 171) and one or more flow records (see FIG. 17B, Attribute Value); see col. 20, lines 5-42.

In view of this, having the combined system of Hegde'875, Blandy, Hebb'067 and Dietz'099, then given the teaching of Takase'535, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Hegde'875, Blandy, Hebb'067 and Dietz'099, for same motivation as described above in claim 29.

Response to Arguments

8. Applicant's arguments filed 9/23/2005 have been fully considered but they are not persuasive.

Regarding claims 1,9,16 and 23, the applicant argued that, "...determining whether to process the group of information for network traffic data collection...neither the cited sections of Hegde nor additional references discloses this claim limitation...Hegde is not network traffic data collection ...Hegde do not relate to selecting a group of information based on an examination of traffic data in that group of information..." in page 9, last paragraph; page 10, paragraph 1, 4; page 11, paragraph 1.

In response to applicant's argument, the examiner respectfully disagrees with the argument above.

Hegde discloses determine whether to process the group of information (see FIG. 2, IP packet; see col. 4, lines 34-53, see col. 5, lines 30-50; see FIG. 7, S30 and S32; see col. 8, lines

250 to col. 9, lines 390) for network traffic data collection (see FIG. 8, S42, S44; see col. 2, lines 65 to col. 3, lines 9; see col. 9, lines 40-55; note that IP header is extracted and determined if the flow (i.e. source and destination) is in the flow table for updating/creating the new forwarding information in the flow table 70 (also see FIG. 5)),

selecting the group of information based on an examination of traffic attribute data (see FIG. 8, S48, S54, checking/getting/evaluation addresses in the packet header, then identifying/selecting) in the group of information (see col. 9, lines 44-55; see col. 10, lines 35-42; flow in the IP packet).

Regarding claims 1,9,16 and 23, the applicant argued that, “...Blandy presents no disclosure of manipulating network traffic data of any kind, including determining whether to process a group of information for network traffic data collection...Blandy does not provide any suggestion that this system performance monitoring method can be used to monitor network traffic data attributes or to perform network traffic data collection...Blandy does not teach sampling of network traffic data by any method...Blandy does not teach determining whether to process a group of information for network traffic data collection according to a burst sampling algorithm ” in page 11, paragraph 2; page 11, paragraph 1; page 13, paragraph 1.

In response to applicant's argument, the examiner respectfully disagrees with the argument above. Hegde discloses determining whether to process a group of information for network traffic data collection as set forth above and previous office action. Further, Blandy teaches determining is performed according to a sampling algorithm (see FIG. 2 and 3, sampling method) that is selected from one of a burst sampling algorithm (see col. 2, lines 64-66; see col. 3, lines 12-19; col. 4, lines 26-50; sampling burst method); and selecting the group of

information based on an examination of traffic attribute data in the group of information (see FIG. 2, 33-39; see FIG. 3, 41-58; see col. 4, lines 30 to col. 6, lines 26; setting/allocating data according to time/count of traffic data).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus, it is clear that the combined system of Hegde and Blandy discloses the argument limitation.

Moreover, “sampling” or “burst sampling” is a well known mathematical process/algorithm, which can be utilized anywhere when sampling “a group of information”, and the combined system of Hegde and Blandy clearly disclose a burst sampling on “a group of information”.

The applicant argued that, “...there is no teaching, suggestion or motivation to combine Hegde with Blandy” in page 13, paragraph 2, page 14, paragraph 1-2.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a burst sampling algorithm, as taught by Blandy in the system of

Hegde, so that it would provide a performance system monitor system performance with minimal changes to the operating system and no changes to application code; also it would provides mechanism for monitoring system performance by sampling in a burst mode, rather than once per interrupt; see Blandy col. 2, line 55 to col. 3, lines 10.

The applicant argued that, "...the office action...ignores the fact that the persent application and claims do not relate to operating system performance but rather network traffic data handling....a person of ordinary skill in the art would not expect success combining Hegde with Blandy" in page 14, paragraph 1; page 15, paragraph 1.

In response to applicant's argument that Blandy is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). Utilizing a mathematical "burst sampling" method/algorithm is well known in the art. In this case, Blandy is clearly disclosing such well known and established mathematical "burst sampling", and Blandy is also pertinent to a particular problem (i.e. burst sampling data/packet/group of information) with which the applicant was concerned.

In response to applicant's argument that one would not expect success from combining, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what

the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In view of the above, **the examiner respectfully disagrees** with applicant's argument and believes that the combination of references as set forth in the 103 rejections is proper, thus, Claims 1,9, 16 and 23 are obvious over Hegde in view of Blandy for at least the reasons discussed above.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

Art Unit: 2661

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM

gmm

10/27/05



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600